



# Music Store Data Analysis



# OBJECTIVE

The analysis aims to extract meaningful insights from the data related to customers, sales, music preferences, and artist performance. By answering a series of progressively complex questions—ranging from basic queries to advanced data aggregations—the project seeks to:

- Identify key business metrics such as top-performing employees, cities, and customers.
- Understand customer behavior and preferences, particularly in relation to music genres and artists.
- Discover trends in sales and invoice data across different countries and cities.
- Support business decisions such as promotional event planning and targeted marketing based on data-driven insights.



## Senior most employee based on job title

```
select top 1 CONCAT(first_name, ' ', last_name) as 'Employee Name',  
title,  
levels  
from employee  
order by levels desc;
```

	Employee Name	title	levels
1	Mohan Madan	Senior General Manager	7.00



## Countries that have the most invoices

```
select top 1  
billing_country as 'Billing Country',  
count(*) as 'No. of Invoices'  
from invoice  
group by billing_country  
order by count(*) desc;
```

	Billing Country	No. of Invoices
1	USA	131



### Top 3 values of total invoices

```
select top 3  
total as 'Values of Total Invoice'  
from invoice  
order by total desc;
```

Values of Total Invoice	
1	23.7600002288818
2	19.7999992370605
3	19.7999992370605



**The city which has the best customers  
(City that has the highest sum of invoice totals)**

```
select top 1
billing_city as 'Billing City',
sum(total) as 'Invoice Total'
from invoice
group by billing_city
order by sum(total) desc;
```

	Billing City	Invoice Total
1	Prague	273.240000247955



## Best Customer (The customer who has spent the most money)

```
select top 1
customer.customer_id,
CONCAT(first_name, ',',last_name) as
'Customer Name',
sum(total) as 'Total Amt Spent'
from customer
join invoice on customer.customer_id =
invoice.customer_id
group by customer.customer_id,
CONCAT(first_name, ',',last_name)
order by sum(total) desc;
```

customer_id	Customer Name	Total Amt Spent
5	František Wichterlová	144.539998054504



**Write query to return the email, first name, last name, & Genre of all Rock Music listeners.**

**Return your list ordered alphabetically by email starting with A.**

```
select customer.first_name, customer.last_name,  
customer.email from customer  
join invoice on invoice.customer_id =  
customer.customer_id  
join invoice_line on invoice_line.invoice_id =  
invoice.invoice_id  
where track_id in (  
    select track.track_id from track  
    join genre on track.genre_id = genre.genre_id  
    where genre.name like '%rock%'  
)  
order by email;
```

	first_name	last_name	email
172	Daan	Peeters	daan_peeters@apple.be
173	Daan	Peeters	daan_peeters@apple.be
174	Daan	Peeters	daan_peeters@apple.be
175	Daan	Peeters	daan_peeters@apple.be
176	Daan	Peeters	daan_peeters@apple.be
177	Daan	Peeters	daan_peeters@apple.be
178	Daan	Peeters	daan_peeters@apple.be
179	Daan	Peeters	daan_peeters@apple.be
180	Daan	Peeters	daan_peeters@apple.be
181	Daan	Peeters	daan_peeters@apple.be
182	Daan	Peeters	daan_peeters@apple.be
183	Daan	Peeters	daan_peeters@apple.be
184	Daan	Peeters	daan_peeters@apple.be
185	Daan	Peeters	daan_peeters@apple.be
186	Daan	Peeters	daan_peeters@apple.be
187	Daan	Peeters	daan_peeters@apple.be
188	Daan	Peeters	daan_peeters@apple.be
189	Diego	Gutiérrez	diego.gutierrez@yahoo...
190	Diego	Gutiérrez	diego.gutierrez@yahoo...
191	Diego	Gutiérrez	diego.gutierrez@yahoo...
192	Diego	Gutiérrez	diego.gutierrez@yahoo...
193	Diego	Gutiérrez	diego.gutierrez@yahoo...
194	Diego	Gutiérrez	diego.gutierrez@yahoo...
195	Diego	Gutiérrez	diego.gutierrez@yahoo...
196	Diana	Peeters	diana.peeters@apple...



**Artists who have written the most rock music.  
(The Artist name and total track count of the top 10 rock bands)**

```
select top 10
artist.artist_id,
artist.name,
count(artist.artist_id) as 'no. of songs' from artist
join album on artist.artist_id = album.artist_id
join track on track.album_id = album.album_id
join genre on track.genre_id = genre.genre_id
where genre.name like '%Rock%' group by artist.artist_id,
artist.name
order by count(artist.artist_id) desc;
```

	artist_id	name	no. of songs
1	22	Led Zeppelin	114
2	150	U2	112
3	58	Deep Purple	92
4	90	Iron Maiden	81
5	118	Pearl Jam	54
6	152	Van Halen	52
7	51	Queen	45
8	142	The Rolling Stones	41
9	76	Creedence Clearwater Revival	40
10	52	Kiss	35



Return all the track names that have a song length longer than the average song length.

```
select
track.name,
track.milliseconds from track
where milliseconds > (
    select AVG(track.milliseconds) as avg_milliseconds
    from track)
order by milliseconds desc;
```

	name	milliseconds
227	Walkin'	807392
228	You Fool No One	804101
229	Rime Of The Ancient Mariner	789472
230	Moby Dick	766354
231	You Fool No One (Alternate Ver...	763924
232	Mistreated	758648
233	No Quarter	749897
234	The Calling	747755
235	El Corazon Manda	713534
236	How Many More Times	711836
237	The End	701831
238	Sign Of The Cross	678008
239	Advance Romance	677694
240	Reach Down	672773
241	Merciful Fate	671712
242	Xanadu	667428
243	In My Time Of Dying	666017
244	I Heard It Through The Grapevine	664894
245	Amy Amy Amy (Outro)	663426
246	Outbreak	659226
247	Stairway To Heaven	657293
248	Sign Of The Cross	649116
249	Sleeping Village	644571



## Amount spent by each customer on artists? (Query that returns customer name, artist name and total spent)

```
WITH best_selling_artist AS (
    SELECT TOP 1
        artist.artist_id,
        artist.name,
        SUM(invoice_line.unit_price * invoice_line.quantity) AS total_sales
    FROM artist
    JOIN album ON artist.artist_id = album.artist_id
    JOIN track ON album.album_id = track.album_id
    JOIN invoice_line ON track.track_id = invoice_line.track_id
    GROUP BY artist.artist_id, artist.name
    ORDER BY total_sales DESC
)
SELECT
    customer.first_name,
    customer.last_name,
    SUM(invoice_line.unit_price * invoice_line.quantity) AS amt_spent,
    artist.name
FROM customer
JOIN invoice ON customer.customer_id = invoice.customer_id
JOIN invoice_line ON invoice.invoice_id = invoice_line.invoice_id
JOIN track ON track.track_id = invoice_line.track_id
JOIN album ON album.album_id = track.album_id
JOIN artist ON artist.artist_id = album.artist_id
JOIN best_selling_artist ON best_selling_artist.artist_id = artist.artist_id
GROUP BY customer.first_name, customer.last_name, artist.name
ORDER BY amt_spent DESC;
```

	first_name	last_name	amt_spent	name
9	František	Wichterlová	3.96	Queen
10	Dan	Miller	3.96	Queen
11	Martha	Silk	2.97	Queen
12	John	Gordon	2.97	Queen
13	Steve	Murray	2.97	Queen
14	Luis	Gonçalves	1.98	Queen
15	Daan	Peeters	1.98	Queen
16	Frank	Harris	1.98	Queen
17	Stanislaw	Wójcik	1.98	Queen
18	Madalena	Sampaio	1.98	Queen
19	Julia	Barnett	1.98	Queen
20	Edward	Francis	1.98	Queen
21	Wyatt	Girard	1.98	Queen
22	Hannah	Schneider	1.98	Queen
23	Emma	Jones	1.98	Queen
24	Luis	Rojas	1.98	Queen
25	Johannes	Van der B...	1.98	Queen
26	Frank	Ralston	1.98	Queen
27	Jennifer	Peterson	1.98	Queen
28	Terhi	Hämäläin...	1.98	Queen
29	Alexandre	Rocha	1.98	Queen
30	Jack	Smith	1.98	Queen
31	Isabelle	Mercier	0.99	Queen
32	Richard	Cunningh...	0.99	Queen
..	..	..	..	..



Most popular music Genre for each country with the highest amount of purchases.  
(Query that returns each country along with the top Genre. For countries where  
the maximum number of purchases is shared return all Genres)

```
WITH popular_genre AS
(
    SELECT COUNT(invoice_line.quantity) AS purchases,
    customer.country, genre.name, genre.genre_id,
    ROW_NUMBER() OVER(PARTITION BY customer.country
    ORDER BY COUNT(invoice_line.quantity) DESC) AS RowNo
    FROM invoice_line
    JOIN invoice ON invoice.invoice_id = invoice_line.invoice_id
    JOIN customer ON customer.customer_id = invoice.customer_id
    JOIN track ON track.track_id = invoice_line.track_id
    JOIN genre ON genre.genre_id = track.genre_id
    GROUP BY customer.country, genre.name, genre.genre_id
)
SELECT * FROM popular_genre WHERE RowNo <= 1;
```

	purchases	country	name	genre_id	RowNo
1	17	Argentina	Alternative & Punk	4	1
2	34	Australia	Rock	1	1
3	40	Austria	Rock	1	1
4	26	Belgium	Rock	1	1
5	205	Brazil	Rock	1	1
6	333	Canada	Rock	1	1
7	61	Chile	Rock	1	1
8	143	Czech Republic	Rock	1	1
9	24	Denmark	Rock	1	1
10	46	Finland	Rock	1	1
11	211	France	Rock	1	1
12	194	Germany	Rock	1	1
13	44	Hungary	Rock	1	1
14	102	India	Rock	1	1
15	72	Ireland	Rock	1	1
16	35	Italy	Rock	1	1
17	33	Netherlands	Rock	1	1
18	40	Norway	Rock	1	1
19	40	Poland	Rock	1	1
20	108	Portugal	Rock	1	1
21	46	Spain	Rock	1	1
22	60	Sweden	Rock	1	1
23	166	United Kingdom	Rock	1	1
24	561	USA	Rock	1	1



Customer that has spent the most on music for each country.

(Query that returns the country along with the top customer and how much they spent.

For countries where the top amount spent is shared, provide all customers who spent this amount)

```
WITH Customer_with_country AS (
    SELECT
        customer.customer_id, first_name, last_name, billing_count
        ry, SUM(total) AS total_spending,
        ROW_NUMBER() OVER(PARTITION BY
        billing_country ORDER BY SUM(total) DESC) AS RowNo
    FROM invoice
    JOIN customer ON customer.customer_id =
    invoice.customer_id
    GROUP BY
        customer.customer_id, first_name, last_name, billing_count
        ry)
SELECT * FROM Customer_with_country WHERE
RowNo <= 1;
```

	customer_id	first_name	last_name	billing_country	total_spending	RowNo
1	56	Diego	Gutiérrez	Argentina	39.5999991893768	1
2	55	Mark	Taylor	Australia	81.1800003051758	1
3	7	Astrid	Gruber	Austria	69.299998998642	1
4	8	Daan	Peeters	Belgium	60.3899998664856	1
5	1	Luis	Gonçalves	Brazil	108.899999380112	1
6	3	François	Tremblay	Canada	99.9899981021881	1
7	57	Luis	Rojas	Chile	97.0199997425079	1
8	5	František	Wichterlová	Czech Republic	144.539998054504	1
9	9	Kara	Nielsen	Denmark	37.6199996471405	1
10	44	Terhi	Hämäläinen	Finland	79.2000005245209	1
11	42	Wyatt	Girard	France	99.9899990558624	1
12	37	Fynn	Zimmermann	Germany	94.049994754791	1
13	45	Ladislav	Kovács	Hungary	78.2099997997284	1
14	58	Manoj	Pareek	India	111.869999647141	1
15	46	Hugh	O'Reilly	Ireland	114.839999437332	1
16	47	Lucas	Mancini	Italy	50.4900009632111	1
17	48	Johannes	Van der Beek	Netherlands	65.3400001525879	1
18	4	Bjørn	Hansen	Norway	72.2699995040894	1
19	49	Stanislaw	Wojciech	Poland	76.2300002574921	1
20	34	João	Fernandes	Portugal	102.95999956131	1
21	50	Enrique	Muñoz	Spain	98.0099990367889	1
22	51	Joakim	Johansson	Sweden	75.2399995326996	1
23	53	Phil	Hughes	United Kingdom	98.0099992752075	1
24	17	Jack	Smith	USA	98.0099999904633	1